CLAIMS

1. A vapor deposition method using a reactant gas (15) to form a thin film on a substrate (7) in a process chamber (2),

said vapor deposition method using an apparatus including:

the process chamber (2);

a flow channel (5) for supplying the reactant gas (15) onto said substrate (7) and discharging the reactant gas;

a substrate holding portion holding said substrate (7);

moving means (12) for relatively moving the substrate holding portion and said flow channel (5);

control means (13) for controlling the moving means (12); and

heating means (10) for heating said substrate (7), wherein

in advance before crystal growth, said control means (13) measures relative positions of the flow channel (5) and the substrate holding portion under each growth condition and stores positional data concerning the measured positions, and

based on a set growth condition as well as the stored positional data, said control means (13) performs control of the position of the substrate holding portion or the position of the flow channel (5) to decrease a change in relative positions of the flow channel (5) and the substrate (7).

2. The vapor deposition method according to claim 1, wherein

the position of the substrate holding portion or the position of the flow channel (5) is controlled so that a bottom surface (20) on the inside and on a substrate holding side of the flow channel is almost coplanar with a crystal growth surface (22) of the substrate.

3. The vapor deposition method according to claim 1, wherein

at least two growth conditions are set.

4. The vapor deposition method according to claim 1, wherein said growth condition includes a heating temperature of the substrate (7).

5. The vapor deposition method according to claim 1, wherein said growth condition includes an internal pressure of the process chamber (2).

6. The vapor deposition method according to claim 1, wherein said control means (13) completes said control before the set growth condition is reached.

7. The vapor deposition method according to claim 1, wherein said control means (13) performs said control before and still after the set growth condition is reached.

8. A vapor deposition apparatus using a reactant gas (15) to form a thin film on a substrate (7) in a process chamber (2), comprising:

the process chamber (2);

a flow channel (5) for supplying the reactant gas (15) onto said substrate (7) and discharging the reactant gas;

a substrate holding portion holding said substrate (7);

moving means (12) for relatively moving the substrate holding portion and said flow channel (5);

control means (13) for controlling the moving means (12); and

heating means (10) for heating said substrate (7), wherein

in advance before crystal growth, said control means (13) measures relative positions of the flow channel (5) and the substrate holding portion under each growth

condition and stores positional data concerning the measured positions, and

based on a set growth condition as well as the stored positional data, said control means (13) performs control of the position of the substrate holding portion or the position of the flow channel (5) to decrease a change in relative positions of the flow channel (5) and the substrate (7).